

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

In response to the drawing objection as expressed in section 1 on page 2 of the Office Action, please find provided herewith a modified formal drawing for Figure 1 which shows therein the "top ring" as recited in the claims. Also, the specification has been amended to make specific reference to this top ring.

In response to the Examiner's 35 U.S.C. § 112, second paragraph, concerns expressed in section 2 on page 2 of the Office Action, claim 6 has been amended to address these concerns. Accordingly, claims 6 and 8-11 should now be allowed by the Examiner.

In response to the indication of allowable subject matter as expressed in section 7 on page 4 of the Office Action, claim 5 has been rewritten in independent form, claims 2-4 have been amended and claims 14, 15, 17, 18 and 20-22 have been cancelled. For the Examiner's convenience, the following chart is provided to show correspondence between the currently pending claims and the claims indicated as being allowable in the Office Action.

Currently Pending Claims	Claims Indicated to be Allowable
2	18
3	21
4	22
5	5
12	15
13	14
16	17
19	20

Also by the current Amendment, claim 1 has been amended to incorporate thereinto the subject matter of former claim 2 to further define the invention around the references relied upon by the Examiner, and claims 23-25 have been added.

The Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Ravkin et al., and the Examiner rejected claims 2-4, 12, 13, 16 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Ravkin et al. in view of Hayakawa et al. These rejections are respectfully traversed for the following reasons.

With regard to claim 1 prior to the current amendment, while the sensor or load cell 178 or 278 of Ravkin et al. can be said to be mounted on dresser or end effector 150 or 210, this sensor does not observe "a property of said polishing surface" as recited in claim 1, but is rather for sensing the amount of load to which the end effector is subjected. There is no sensor in Ravkin et al. that observes a property of a polishing surface thereof. The sensors referred to by the Examiner, i.e. those referred to in column 12, lines 43-45 and column 13, lines 1-13 of Ravkin et al., correspond to the load cells 178 or 278, and do not correspond to a sensor that is to observe a property of a polishing surface. Thus, claim 1 prior to the instant amendment is not anticipated by or obvious over Ravkin et al.

Hayakawa et al. does not resolve this deficiency of Ravkin et al., since even though Hayakawa et al. does disclose a sensor 26 for observing a property of a polishing surface, this sensor 26 is not "mounted on said dresser" as recited in claim 1. Thus, claim 1 prior to the instant amendment is also allowable over a combination of Ravkin et al. and Hayakawa et al.

Irrespective of the above, as expressed previously, claim 1 has been amended to incorporate thereinto the subject matter of former claim 2. Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ravkin et al. in view of Hayakawa et al., and accordingly, this rejection will be addressed as it pertains to amended claim 1.

As recited in amended claim 1, provided is a polishing apparatus that comprises a polishing table having a polishing surface, a top ring, a dresser, and

a sensor for observing irregularity or undulation of said polishing surface... while said polishing surface is being dressed by said dresser... said sensor being mounted on said dresser.

Accordingly, with regard to the sensor, claim 1 requires that the sensor is **for observing irregularity or undulation** of the polishing surface, and is also **mounted on said dresser**. Because the sensor is mounted on the dresser, the sensor can be easily adjusted to a position that is optimum for measuring a property of the polishing surface, without the need for any special moving mechanism. Such a sensor is not disclosed or suggested by either Ravkin et al. or Hayakawa et al.

The Examiner recognized that sensor 178 or 278 of Ravkin et al. does not sense irregularity or undulation of a polishing surface, and thus relied upon Hayakawa et al's teaching of sensor 26 to resolve this deficiency of Ravkin et al. In this regard, the Examiner took the position that in view of Hayakawa et al. one having ordinary skill in the art would have found it obvious to provide the polishing apparatus of Ravkin et al. with the sensor 26 of Hayakawa et al. Even if Ravkin et al. and Hayakawa et al. were combined as suggested by the Examiner, amended claim 1 would not be met by this combination of references.

Specifically, as expressed previously, while the sensor 26 of Hayakawa et al. is for observing irregularity or undulation of a polishing surface, this sensor is not mounted on a dresser. Accordingly, even if it would have been obvious to modify Ravkin et al. by providing therein the sensor 26 as disclosed by Hayakawa et al., there would have been no motivation or suggestion to have mounted this sensor on the dresser of Ravkin et al. Thus, amended claim 1 is allowable over a combination of Ravkin et al. and Hayakawa et al, whereby claims 1 and 23-25 are allowable.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

Shozo OGURI et al.

By: Joseph M. Gorski
Joseph M. Gorski
Registration No. 46,500
Attorney for Applicants

JMG/edg
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
July 29, 2003